UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/531,438	03/20/2000	Maryse Gibert	0660-0172-0 CONT	5905

22850 7590 12/02/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
PORTNER, VIRGINIA ALLEN	
ART UNIT	**PAPER NUMBER**
1645	23

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/531,438	GIBERT ET AL.	
	Examiner	Art Unit	
	Ginny Portner	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *15 May 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

4)☐ Claim(s) *42-93* is/are pending in the application.

4a) Of the above claim(s) *74-79 and 90-93* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *42,44-73,81,83,85,87 and 89* is/are rejected.

7)☐ Claim(s) *43, 80, 82, 84, 86, 88* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claims 1-41 have been canceled.

New claims 42-93 have been submitted.

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 15, 2003 has been entered.

Rejections Withdrawn

2. Claims 42-73 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, in light of a new grounds of rejection set forth below.

3. Claims 56-57, 59, 61, 71-73 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, in light of the arguments and references cited .

4. Claims 43-44 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, in light of the amendment of the claims to delete the unclear phases.

5. Claims 42, 45, 48-49, 50, 54-56, 61-65, 66-69, 71-73 rejected under 35 U.S.C. 102(b) as being anticipated by Hunter et al (in light of the arguments set forth in response to this prior art rejection..

Election/Restrictions

6. Newly submitted claims 74-79 and 90-93 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The combination of reagents and methods steps differ from the methods and compositions previously examined, thus defining an independent and distinct invention.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 74-79 and 90-93 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Allowable Subject Matter

7. Claim 43 defines over the prior art of record and therefore define allowable subject matter; but is objected to as depending from a rejected claim.

8. Claim 42, subparagraph (a) defines over the prior art of record and therefore defines allowable subject matter, but claim 42 subparagraph (b) stands rejected under 35 USC 112, first

paragraph. Removal of subparagraph (b) would place claim 42 and the claims that depend therefrom in condition for allowance.

9. Claim 60, SEQ ID No 4 defines over the prior art of record and therefore defines allowable subject matter, but claim 60 also recites an embodiment "or a sequence which hybridizes under stringent conditions to SEQ IDNO 4, stands rejected under 35 USC 112, first paragraph. Removal of the species rejected under 35 USC 112 first paragraph would place claim 60 and the claims that depend therefrom in condition for allowance.

10. Claims 80, 82,84, 86, 88 defines over the prior art of record and therefore define allowable subject matter; but are objected to as depending from a claim rejected under 35 USC 112, first paragraph and reciting claim limitations rejected under 35 USC 112, first paragraph recited in independent claim 60.

Claim Objections

11. Claim 72, subparagraph (a) line 3 is objected to because of the following informalities: The phrase "nucleic acid on said vector" is recited, and should recite --in-- "said vector. Appropriate correction is required.

Claim Rejections - 35 USC § 112

12. Claims 42 (subparagraph (b), 44-59, 61-73 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The instantly claimed invention is directed to a purified nucleic acid that comprises a "sequence hybridizing with a complementary strand of SEQ ID NO 3 under stringent conditions, which comprise washing at 65^{O} in 0.1 X SSC and 0.1% SDS; wherein said purified nucleic acid has a transcriptional promoter activity.

The specification, at page 17, teaches that the transcriptional promoter of the invention includes a "region or fragments or variants" that "that can be determined in different manners, in particular by inserting this region upstream of a reporter gene, and verifying the presence of the transcription of a translation product of the reporter gene in a suitable cell host (page 17, lines 24-30). Additionally, the instant specification teaches that presence of a "consensus ribosome binding site (GGGGGG) from nucleotides 255-260 of the region of SEQ ID NO 3, which has nucleotides 1-267.

The specification teaches a method of screening for fragment and variant nucleic acid molecules with transcription activity. A method of screening is not a method of making a nucleic acid with transcriptional activity. No specific sequence or critical combination of nucleic acids has been taught or described as being essential for the attainment of the recited functional activity of "a transcriptional promoter activity". The claimed nucleic acid that will hybridize to a complementary strand of SEQ ID NO 3, could be produced based upon knowledge in the art of nucleic acid hybridization conditions, but what changes in the overall sequence would result in a nucleic acid with the recited transcriptional promoter activity has not been described.

The person of skill in the art would have to de novo, identify and isolate nucleic acid molecules that would hybridize and then test the nucleic acid molecules to see if the nucleic acid molecules evidence the recited activity. The instant specification teaches a method of screening and testing, not a method of making nucleic acids that evidence transcriptional promoter activity. The instantly claimed embodiment of claim 42(b), and claims dependent

therefrom, has not been enabled, because where and what essential and critical components that define the functional characteristics recited in the claim have not been described. No specific guidance and teaching have been provided in the instant specification to insure that variants, fragments and variant fragments of SEQ ID NO 3 would evidence transcriptional promoter activity. The full scope of the claimed invention has not been enabled for the reasons set forth above.

13. Claims 60, 81, 83, 85, 87 and 89 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a purified nucleic acid comprising SEQ ID NO 4, and encodes a peptide that functions as a secretion signal peptide, as well as nucleic acid molecules that encode peptides that comprise a combination of critical amino acids 6-26 of SEQ ID NO 4 that define a hydrophobic transmembrane region with charged amino acids at positions Lys2, Lys3, Lys7 and Lys27 to insure incorporation and location of the encoded peptide for secretion, does not reasonably provide enablement for any purified nucleic acid molecule that will hybridize under stringent conditions to SEQ ID No 4 to encode a peptide with secretion signal peptide activity. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The claimed invention defined by hybridization language in claim 60 does not require the purified nucleic acid to encode a peptide with the critical structural characteristics that would convey the functional limitations set forth in the claims as a secretion signal peptide. Independent claim 60 ("or a sequence which hybridizes under stringent conditions to SEQ ID

NO 4), and claims dependent therefrom are only enabled for a scope of what is claimed, especially in light of the fact that the variants, fragments, and variant fragments defined by the recitation of hybridization language, do not require the maintenance of the critical hydrophobic region associated with transmembrane peptide secretion. No other means or structures have been taught or described in the instant specification to enable nucleic acid molecules that encode secretion signal peptides.

While the specification suggests that the claimed nucleic acids can be evaluated for encoding a peptide with secretion signal sequence activity (see page 18, line 24-25) using a method of screening for fragment and variant nucleic acid molecules which encode peptides with signal sequence activity, a method of screening is not a method of making a nucleic acid with signal sequence activity. The claimed nucleic acids that will hybridize to SEQ ID NO 4 are not required to be of any specific sequence or size, and the critical combination of nucleic acids that insures the peptide would evidence the hydrophobic transmembrane domain described in the instant specification for secretion is not claimed.

No nucleic acid molecules that do not encode the critical range of amino acids 6-26 with the essential lysine charged amino acids at specific locations in the peptide defining a hydrophobic region, and a transmembrane domain have been described. The person of skill in the art would have to de novo, identify and isolate nucleic acid molecules that would hybridize and then test the nucleic acid molecules to see if the nucleic acid molecules evidence the recited activity. The instant specification teaches a method of screening and testing, not a method of making nucleic acid molecules that encode peptides with secretion signal sequence activity. The instantly claimed embodiment of claim 60 and claims dependent therefrom, have not been

enabled over the full scope of the claim(s). This rejection could be obviated by amending the independent claim to recite the critical combination of structural characteristics taught in the instant specification, which define the recited functional characteristics. The full scope of the claimed invention has not been enabled for the reasons set forth above.

Claim Rejections - 35 USC § 102

14. Claims 60, and claims dependent therefrom that are not limited to SEQ ID NO 4, but are directed to purified nucleic acids that comprise a sequence that encodes a signal secretion sequence are rejected under 35 U.S.C. 102(b) as being anticipated by Hunter et al (1993).

Hunter et al disclose a purified nucleic acid that comprises a sequence of nucleotides that would hybridize to the complementary strand of SEQ ID NO 4, wherein the nucleic acid encodes a signal secretion amino acid sequence (first twenty nine amino acids), the nucleic acid encoding an peptide "MKK" (see page 3961, Figure 2, line 4 of nucleic acid sequence) that would hybridize to SEQ ID NO 4. Inherently the reference anticipates the instantly claimed invention.

15. Claims 42 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Fach et al (US Pat. 5,874,220).

Fuch et al discloses the instantly claimed invention directed to a purified nucleic acid that comprises a sequence that will hybridize to SEQ ID NO 3 (instant invention sequence) and encodes a Clostridium perfringens beta 2 toxin promoter (see Fuch et al vector pMRP109 nd pMRP126 contains the beginning of the beta toxin 2 gene (see Fuch et al,

col.4, lines 44-52) and shares sequence homology with instant SEQ ID No 3 (see Figure 4 of Fuch et al). Inherently the reference anticipates the instantly claimed invention.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ginny Portner whose telephone number is (703) 308-7543. The examiner can normally be reached on 7:30-5:00 M-F, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith can be reached on (703)308-3909. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-7543.

Vgp
November 19, 2003

LYNETTE R. F. SMITH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600